217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT - RENEWAL

PERMITTEE

Arnold Magnetic Technologies Corporation
Attn: Stephen Brisson
300 North West Street
Marengo, Illinois 60152

Application No.: 73090130
Applicant's Designation:
Subject: Magnetic Alloys Manufacturing
Date Issued:
Location: 300 North West Street, Marengo

I. D. No.: 111812AAB
Date Received: October 1, 2001
Expiration Date: (5 years)

Permit is hereby granted to the above-designated Permittee to OPERATE emission source(s) and/or air pollution control equipment consisting of the following equipment pursuant to the above-referenced application:

Permalloy Strip Facility

Five Strip Mills
Strip Treatment Equipment comprised of:
Phosphoric acid bath,
Nine Annealing Furnaces, and
Three Cold Degreasers

Sintered Alnico Facility

Jaw Crusher controlled by Dust Collector,
Ball Mill controlled by Dust Collector,
Powder Mixer, Scale, Separator, Pulverizers and Screener controlled by Dust Collectors,
Three Dewaxing Furnaces
Three Sintering Furnaces
Ten Presses

Cast Alnico Facility

Five Induction Furnaces,
Sand Mold/Core making equipment controlled by Baghouse and Scrubber,
Two Heat Treating Furnaces
Die Casting Operations
Bake Oven

This Permit is subject to standard conditions attached hereto and the following special condition(s):

1a. This federally enforceable state operating permit is issued:

i. To limit the emissions of air pollutants from the source to less than major source thresholds (i.e., 100 tons/year of volatile organic materials (VOM) and particulate matter with an aerodynamic diameter of 10 microns or less (PM-10)). As a result, the source is excluded from the requirement to obtain a Clean Air Act Permit Program (CAAPP) permit.

ii. To limit the emissions of VOM from the source to less than 25 tons/year. As a result, the source is excluded from the requirement of 35 Ill. Adm. Code Part 205, Emission Reduction Market System. The maximum emissions of this source, as limited by the conditions of this permit, are described in Attachment A.

b. Prior to issuance, a draft of this permit has undergone a public notice and comment period.

c. This permit supersedes all operating permits issued for this location.

2. This permit is issued based on the cold cleaning degreasers being subject to operational and equipment requirements of 35 Ill. Adm. Code 218.182 but being exempted from the material requirements of 35 Ill. Adm. Code 218.182(c) as being used to clean electronic components per exemption provision of 35 Ill. Adm. code 218.182(f).

3. The Permittee shall comply with the following operating and equipment requirements for cold cleaning degreasers, pursuant to 35 Ill. Adm. Code 218.182:

a. Waste solvent shall be stored in covered containers only and not disposed of in such a manner that more than 20% of the waste solvent (by weight) is allowed to evaporate into the atmosphere;

b. The cover of the degreaser shall be closed when parts are not being handled and parts are drained until dripping ceases;

c. The degreaser must be equipped with a cover which is closed whenever parts are not being handled in the cleaner. The cover shall be designed to be easily operated with one hand or with the mechanical assistance of springs, counterweights, or a powered system;

d. The degreaser shall be equipped with a device for draining cleaned parts. The drainage device shall be constructed so that parts are enclosed under the cover while draining;

e. The degreaser must be equipped with one of the following control devices if the vapor pressure of the solvent is greater than 4.3 kPa (32 mmHg or 0.6 psi) measured at 38°C (100°F) or if the solvent is heated above 50°C (120°F) or its boiling point:
i. A freeboard height of 7/10 of the inside width of the tank or 91 cm (36 in), whichever is less; or

ii. Any other equipment or system of equivalent emission control as approved by the Illinois EPA and further processed consistent with Section 218.108 of this Part. Such a system may include a water cover, refrigerated chiller or carbon adsorber.

f. A permanent conspicuous label summarizing the operating procedure must be affixed to the degreaser; and

g. If a solvent spray is used, the degreaser must be equipped with a solid fluid stream spray, rather than a fine, atomized or shower spray.

4. Solvent usage and VOM emissions from the degreasers shall not exceed 1.7 ton/month; 16.5 tons/year. For this purpose solvent usage shall be determined as the amount of virgin solvent added to the degreasers minus the amount of waste solvent shipped off site for recycling or disposal. Compliance with annual limits shall be determined on a monthly basis from a running total of 12 months of data.

5. Operations and VOM emissions from mold/core making and metal casting operations shall not exceed the following limits:

a. Mold making and metal casting

Cast Alnico Production: 135 (tons/mo), 1,560 (tons/yr)
DMEA Catalyst Usage: 3.0 tons/mo, 30.0 tons/yr

Process	Emission Factor (lb/ton)	Emission Factor (wt.%)	Control Efficiency (wt.%)	VOM Emissions (lb/mo)	VOM Emissions (ton/yr)
Sand/Binder Mixing/ Forming/Storage	1.8	--	--	243	1.4
Metal Pouring/Casting	0.14	--	--	19	0.1
Casting Shakeout	1.2	--	--	162	0.9
DMEA Catalyst	--	100	90	600	3.0
				Total	5.4

b. Ceramic core making

Binder Usage (ton/mo)	Binder Usage (ton/yr)	Emission Factor (wt.%)	VOM Emissions (lb/mo)	VOM Emissions (ton/yr)
0.5	3.2	50	500	1.6

These limits are based on the maximum production rate, standard emission factors for metal casting and mold shakeout (SCC 3-04-003-20, 3-04-003-31), emission factor for sand/binder mixing/forming/storage derived from the study conducted by Ohio Cast Metals Association, scrubber manufacturer's specification and engineering estimate of at least 50% of ceramic binder VOM being burned in curing oven. Compliance with annual limits shall be determined on a monthly basis from a running total of 12 months of data.

6. This permit is issued based on negligible emissions of volatile organic materials from dewaxing and sintering furnaces. For this purpose, emissions shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 ton/year.

7. This permit is issued based on negligible emissions of particulate matter from strip mills, strip treatment equipment, jaw crusher, ball mill, powder mixing operations, sintering furnaces, presses, induction furnaces, sand mold/core making operations, heat treating furnaces and die casting operations. For this purpose, emissions form each emission unit or group of emission units shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 ton/year.

8. Emissions from the natural gas combustion equipment shall nor exceed the following limits:

   Natural Gas Usage: 20 mmscf/mo, 200 mmscf/yr

Pollutant	Emission Factor (Lb/10^6 scf)	Emissions (ton/mo)	(ton/yr)
Nitrogen Oxides (NO_X)	100	1.0	10.0
Carbon Monoxide (CO)	84	0.8	8.4
Particulate Matter (PM)	7.6	0.1	0.8
Volatile Organic Materials (VOM)	5.5	0.06	0.6

   These limits are based on the maximum production rate and standard emission factors. Compliance with annual limits shall be determined on a monthly basis from a running total of 12 months of data.

9. This permit is issued based on the potential to emit (PTE) for hazardous air pollutants (HAPs) as listed in Section 112(b) of the Clean Air Act being less than 10 tons per year of any single HAP or 25 tons per year of any combination of such HAPs, or such lesser quantity as USEPA may establish by rule which would require the Permittee to obtain a Clean Air Act Permit Program permit from the Illinois EPA.

10. The Permittee shall maintain monthly records of the following items for the degreaser:

    a. Solvent usage in degreasers (gal/mo, gals/yr);

    b. Certified amount of waste solvent shipped off (gal/mo, gal/yr);

    c. Certified VOM content of waste solvent (lb/gal);

    d. Binder usage in mold/core making process (ton/mo, ton/yr);

    e. Natural gas usage (mmscf/mo, mmscf/yr);

    f. PM10, VOM and HAP emissions with supporting calculations (ton/mo, ton/yr).

11. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least five years from the date of entry and shall be made available for inspection and copying by the Illinois EPA and USEPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA request for records during the course of a source inspection.

12. If there is an exceedance of the requirements of this permit, as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA's Compliance Section in Springfield, Illinois within 30 days after the exceedance. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or violation, and efforts to reduce emissions and future occurrences.

13. Two (2) copies of required reports and notifications concerning equipment operation or repairs, performance testing or a continuous monitoring system shall be sent to:

    Illinois Environmental Protection Illinois EPA
    Division of Air Pollution Control
    Compliance Section (#40)
    P.O. Box 19276
    Springfield, Illinois 62794-9276

    and one (1) copy shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:

    Illinois Environmental Protection Illinois EPA
    Division of Air Pollution Control - Regional Office
    9511 West Harrison
    Des Plaines, Illinois 60016

If you have any questions on this permit, please call Valeriy Brodsky at 217/782-2113.

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

DES:VJB:

cc: IEPA, FOS Region 1
Lotus Notes

Attachment A - Emissions Summary

This attachment provides a summary of the maximum emissions from this facility operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Illinois EPA used the annual operating scenario which results in maximum emissions from such a plant. The resulting maximum emissions are below the levels at which this source would be considered a major source for purposes of the Clean Air Act Permit Program. Actual emissions from this source will be less than predicted in this summary to the extent that less material is handled and control measures are more effective than required in this permit.

	E M I S S I O N S					
Emission Units	VOM	NO_x	CO	PM	Single HAP	Total HAP
Degreasers	16.5					
Mold/Core making and usage	7.0					
Dewaxing, sintering furnaces	0.4					
Fuel combustion equipment	0.6	10.0	8.4	0.8		
Metal processing and sand handling				4.8		
	24.5	10.0	8.4	5.6	<10	<25

VJB: